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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/009,542	06/03/2002	Jurgen Karl	942640-18	1475

7590 06/15/2005

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EXAMINER	
BHAT, NINA NMN	

ART UNIT	PAPER NUMBER
1764	

DATE MAILED: 06/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/009,542	KARL, JURGEN	
	Examiner	Art Unit	
	N. Bhat	1764	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 August 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *07 October 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 1-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Forney et al. in combination with GB 1 599 398.

Forney et al. teach the invention substantially as claimed. Specifically, Forney teaches providing a pressurized fluidized bed gasification chamber which includes means to supply the feed materials to the gasification chamber for gasification, and an external heat source and means which removes heat from the gasifier.[Note the Figure and Column 3, lines 5-41, Column 3, lines 64-68 and Column 4, lines 1-55]

However, Forney et al. does not teach using heat pipe arrangement within the fluidized bed nor the pressure lock hoppers.

Forney et al. teaches adding the slurry of carbonaceous material to be gasified at about atmospheric pressure thus avoiding the use of lock hoppers and suggests using a

pump in order to increase the slurry pressure into the gasifier in order to maintain the pressure within the fluidized bed reactor, to employ a lock hopper if so desired would have been obvious to one of ordinary skill in the art in light of the teachings of Forney et al.

GB 1 599 398 teach the fluidized bed gasification arrangement which includes using heat pipes in order to transfer heat into or out of a fluidized bed. The divided two compartment arrangement of fluidized bed taught in GB 1 599 398 provides a lower compartment which functions as a combustion bed while the upper compartment functions as a reaction bed. GB 1 599 398 teaches the lock hoppers for removal of ash from the system. The heat generated by the combustion process is absorbed by heat pipes (10) and is conveyed by the pipes to the sold material (3) in the upper compartment. Because of the heat transfer properties of the heat pipe, very efficient heat transfer is possible between the beds in the lower and upper compartment. [Note Page 1, lines 1-51]

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a pressurized fluidized bed gasification chamber which includes means for supplying the feed materials which are to be gasified and a fluidized bed gasification chamber connected to a filter chamber which provides gas free of any solids or any other contaminants which can be used as fuel this has been broadly taught by Forney et al. Forney et al. does not teach applicant's specific fluidized bed arrangement utilizing the heat pipes as claimed but this deficiency is taught by GB 1 599 398, to employ the fluidized bed arrangement of GB 1 599 398 in the system of

Forney et al. renders applicant's invention as a whole obvious as both Forney et al. and GB 1 599 398 teach gasification using fluidized bed and to substitute fluidized bed with the other would have been obvious absent criticality in showing.

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kubiak et al.'444 teach a process for allothermic gasification of coal. Fujimura et al. teach a method and apparatus for treating wastes by gasification. Kubiak et al.'515,'491 teach a fluidized bed gas generator for allothermic gasification of coal. Roy et al. teach low temperature auto thermal steam reforming of methane in a fluidized bed. Feistel et al. teach a gas generator for the production of gas from fuel and steam under high pressure and temperature conditions. Squired teach treating carbonaceous matter with hot steam.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to N. Bhat whose telephone number is 571-272-1397. The examiner can normally be reached on Monday-Friday, 9:30AM-6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on 571-272-1444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

N. Bhat
Primary Examiner
Art Unit 1764